

# ***Headquarters U.S. Air Force***

*Integrity - Service - Excellence*

## **Global Strike CONOPS/ Long-Range Strike “Pizza Lunch” Briefing**

**10 June 2005**



**U.S. AIR FORCE**

**Col David A.  
Lengyel**

**HO USAF/XOX-GS**

Overall classification of  
this briefing is



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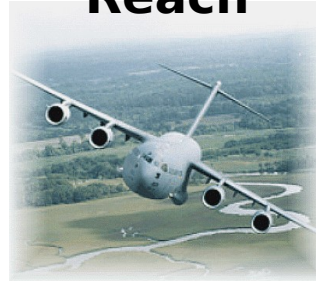
# AF CONOPS Construct



**Global Power**



**Global Reach**



**Global Vigilance**



Strategy

**Expeditionary Air and Space Force (EAF) is the USAF foundation to prepare, respond, deploy, and employ for any task**

Tasks



**Capabilities Review & Risk Assessment**

**Homeland Security**

**Global Strike CONOPS**

**Global Mobility CONOPS**

**Global Persistent Attack**

**Nuclear Response CONOPS**

**Space & C4ISR CONOPS**

**CONOPS**

**Agile Combat Support**



# The Emerging Threat

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Across Iran: 750 NM

WMD

Nuclear

Biological

Decentralized  
Internettted IADS

TBMs  
Deeply-Buried Targets

C2 Facility

Ammunition Storage

WMD

Advanced SAMs

CMs

ASCMs

Fighters

Cruise Missiles

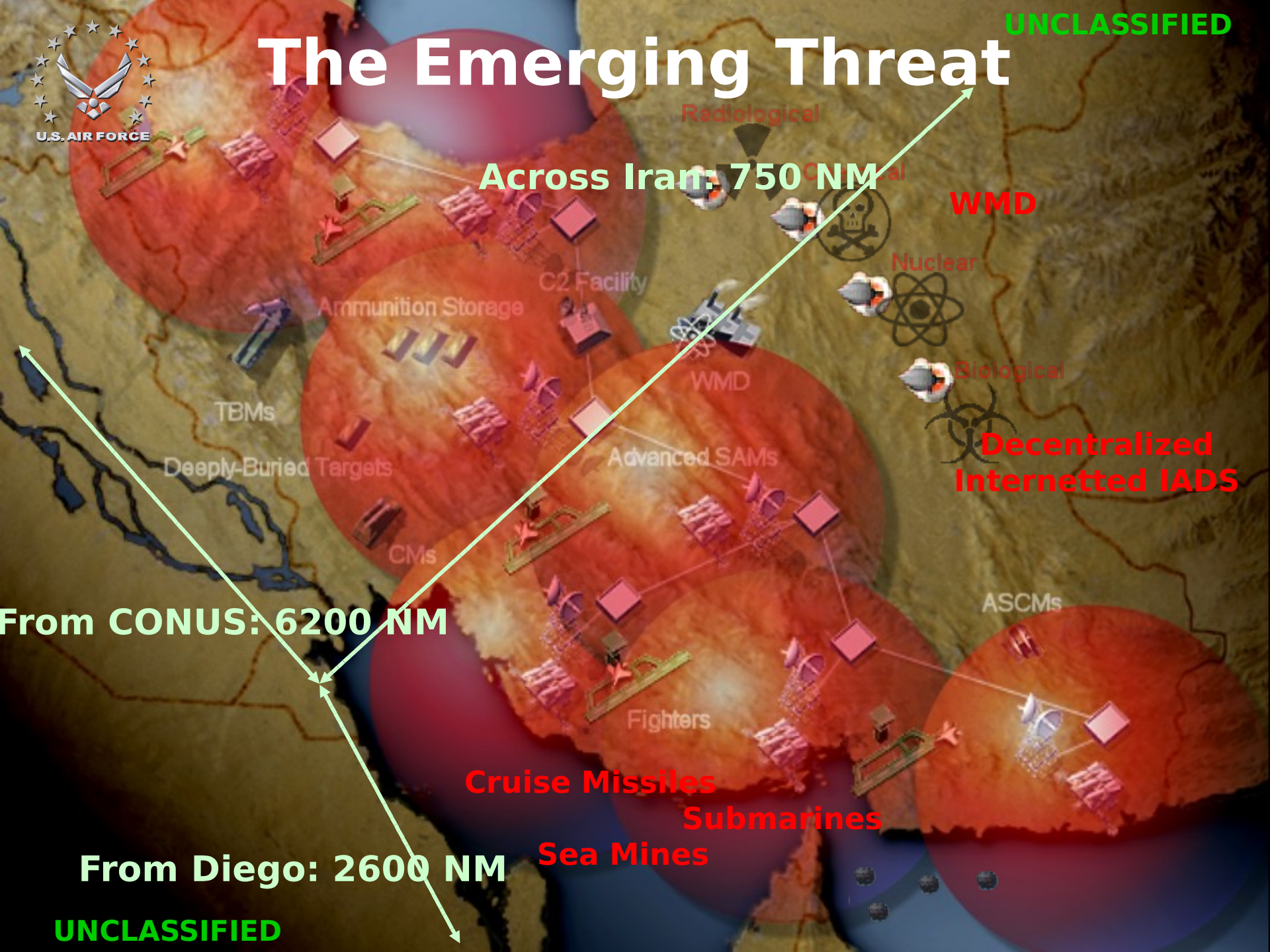
Submarines

Sea Mines

From CONUS: 6200 NM

From Diego: 2600 NM

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# Joint Force Commander Needs

**Complete battlespace awareness**  
**Ability to command and control global forces**  
**Surprise**  
**Freedom of maneuver 24 / 7**  
**Robust, information dominance**  
**Ability to rapidly mass effects when and where needed**  
**Force Protection against enemy WMD and precision**  
**Flexible response options**



# Joint CAF Capabilities

**Persistent multi-spectral, fused sensors**

**Global Command and Control (C2)**

**24 / 7 Stealth**

**Horizontally integrated system of systems**

**Range, payload, speed, maneuverability**

**Multi-mission, interoperable**

**Robust all-weather delivery**

**Increased standoff**

**Consistent, reliable precision**

**Support to widely dispersed maneuver forces**



# ***The Problem***

- Current power projection strategy depends on US forces having sufficient **time** to build up in-theater, and on their gaining rapid **access** to theater bases, ports, airfields and littoral waters

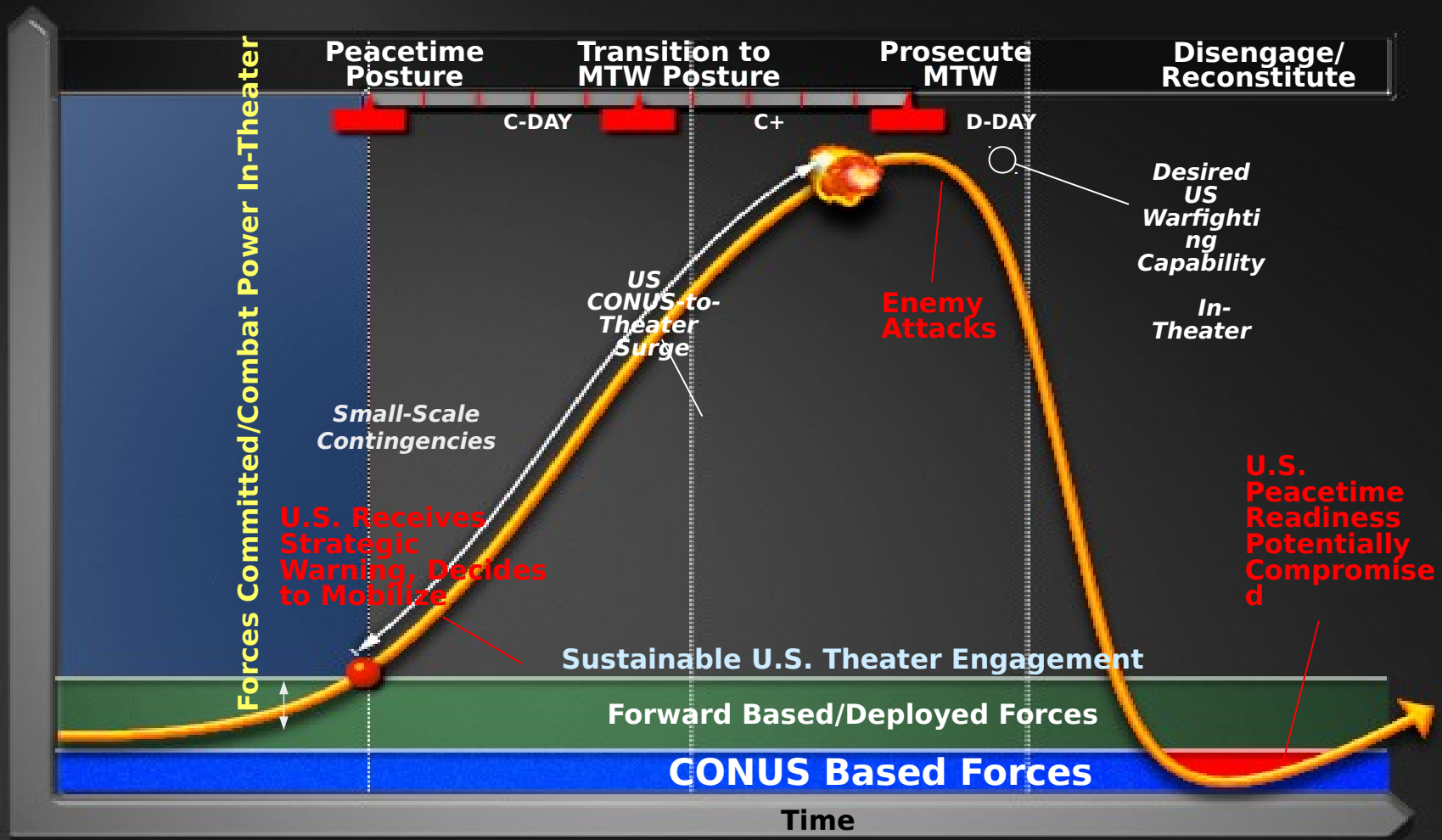
- Potential adversaries recognize and are actively preparing to exploit this **Achilles Heel**

“Future adversaries could have the means to render ineffective much of our current ability to project military power overseas.”

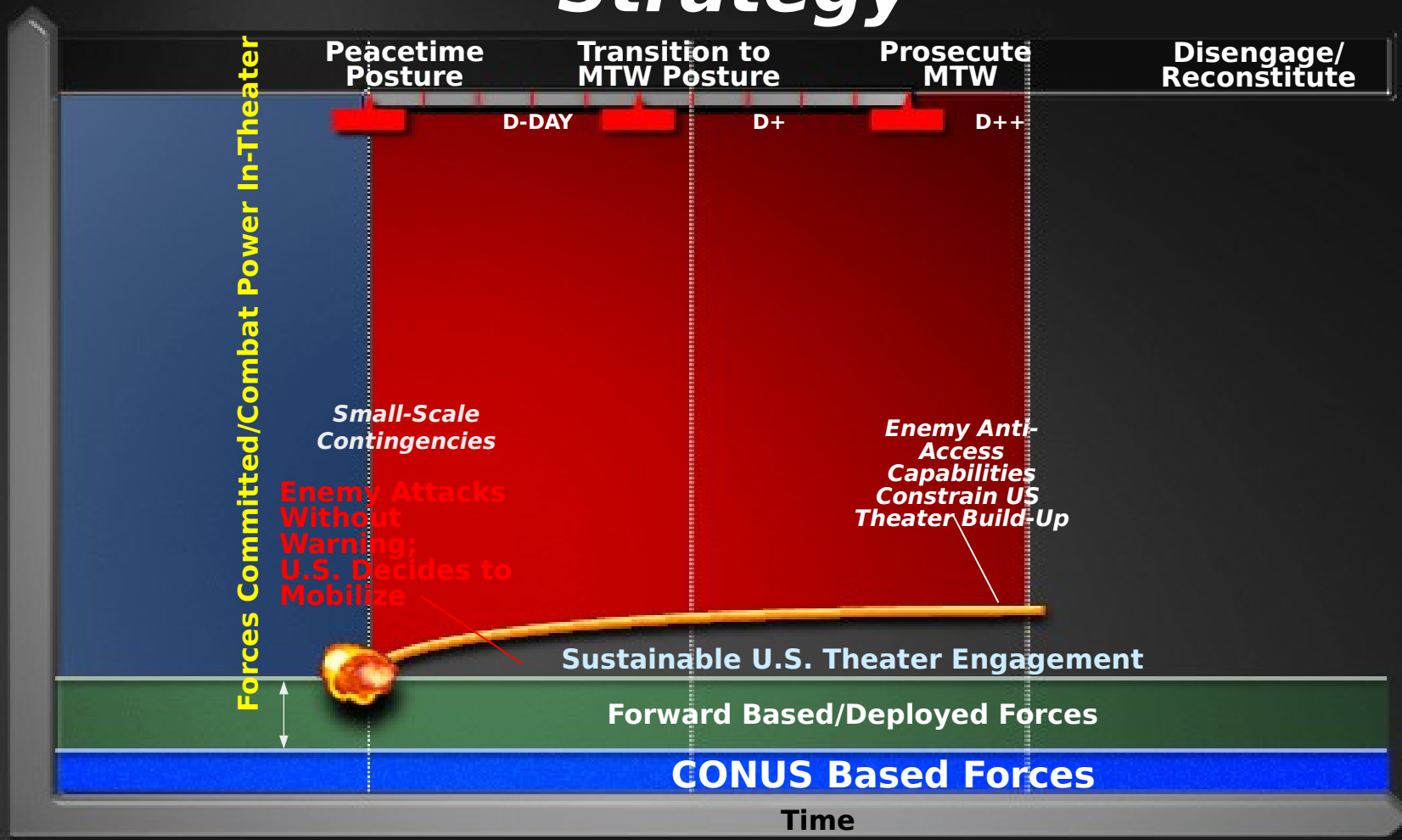
“Potential adversaries are acquiring weapons and developing strategies **aimed at denying U.S. forces access** to critical theaters of operations in a crisis.”

“U.S. forces must be capable of **sustaining power projection** in anti-access environments.” *Joint Chiefs of Staff Defense Review 2001*

# Current US Power Projection Strategy



# Potential Impact of Time & Access Challenges on U.S. Strategy







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# *The Challenge*

“We must radically alter the way in which we project power...”

“Our ability to project combat power anywhere in the world will require new...operational concepts... a much smaller force ‘footprint,’ and an enhanced military responsiveness distinguished by its increased range of employment and resulting in reduced exposure of our forces.”

*National Defense Panel, 1997*

“U.S. forces must have the ability to achieve a wide range of offensive and defensive effects in the face of determined adversaries armed with asymmetric weapons of war seeking to deny access to U.S. forces.”

“Forward deterrence in the future will be determined less by the number of troops, ships, or aircraft within a theater, than by the strategic and operational effects that U.S. forces and capabilities can achieve almost instantly both from within as well as from beyond a theater.”



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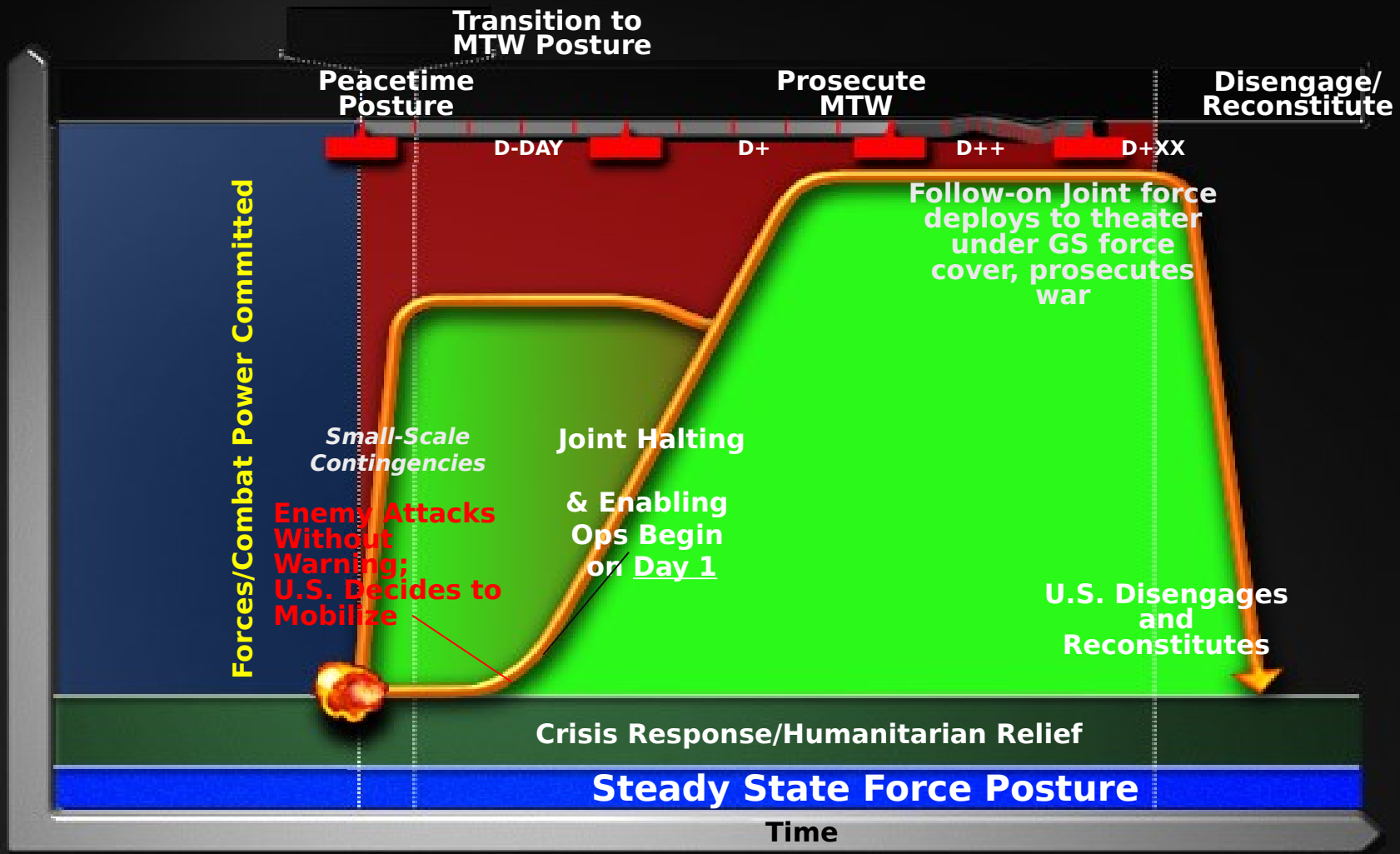
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# ***Meeting the Challenge: GS CONOPS***

- **Precision, long-range, quick-reaction air and space-based strike platforms that can operate in an anti-access environment to facilitate early and rapid-response strike operations**
- **Networked Command, Control, Computers, Communication, Intelligence, Surveillance, and Reconnaissance (C4ISR) for targeting, battle management, and damage assessment**
- **Early-entry land forces/SOF to protect ports and airfields, and to help find, fix, track, and destroy targets**
- **Information operations (IO)- The application and integration of non-kinetic capabilities in the pre-crisis, conflict, and reconstitution phases of war within the cyber, electromagnetic, and cognitive domains.**

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# GS Ensures Immediate, Robust Initial Response







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## ***GS CONOPS Desired Effects***

- **ACCESS:** Gain and Maintain battlespace access
- **RAPID GLOBAL RESPONSE:**
  - Quickly Neutralize the adversary's key high-value targets

***Leverage the Nation's Asymmetric Technological Advantages —Range, Stealth, Standoff, Precision, Information, and Space—to Rapidly Create War-Winning Effects***

# Global Strike CONOPS

## Legacy Systems





# Global Strike CONOPS

## Current LO systems





# Global Strike CONOPS

## Emerging Capabilities



**Stealth, supercruise, and high altitude  
provide reliable threat**



# *Exploitation*

- By defeating adversary anti-access capabilities, GS will allow joint force commanders to deploy persistent follow-on ISR and joint forces closer to the threat to achieve a wide range of effects in the first days of conflict. The GS requires the capability to:
  - Continue to roll back the range and methods by which the enemy can attempt to deny access
  - Allow vulnerable systems such as tankers, BMD, ISR and C2 platforms to move within effective range, and allow non-stealthy strike systems to engage a wide range of targets
  - Integrate additional joint forces into operations as they become available and survivable
  - Open additional bases to support follow-on forces
  - Deploy robust, deployable theater missile defenses to defend against theater ballistic and cruise missile “leakers”
  - Continue operations as part of follow-on joint task forces
  - Reconstitute GS capabilities



# ***Long Range Strike (LRS)***

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- **Definition:** The capability to achieve a desired effect(s) rapidly and/or persistently, on any target, in any environment, anywhere, at any time.
- **Effects wide-ranging ... from strategic nuclear deterrence to win decisively via theater persistent/responsive attack**
  - Dissuade adversaries
  - Deter aggression
  - Defeat swiftly - win decisively if deterrence fails
  - Deny sanctuary ... GWOT
  - Assure friends and allies



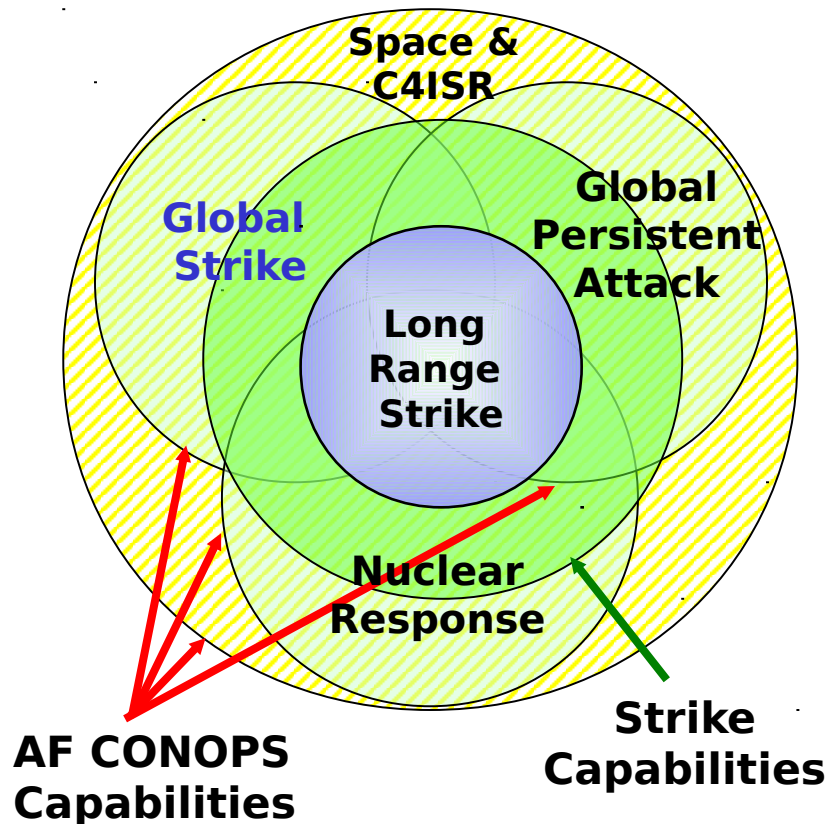


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# CONOPS and LRS

- Space & C4ISR CONOPS enables force application
- GS, GPA, and NR CONOPS demand LRS capability



**Long Range Strike (LRS)** is a set of integrated **capabilities** that enable rapid and precise delivery, at up to inter-continental ranges, of militarily decisive force to neutralize targets as required by the Regional



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# GS Capabilities

- Secure, survivable, persistent, global ISR
- Predictive battlespace awareness (PBA)
- Robust, deployable, global C2
- Over-the-horizon, LPI communications
- Jam-resistant, machine-to-machine connectivity
- Rapid target ID and engagement
- Precision effects against GS target array
- Real-time effects-based assessment

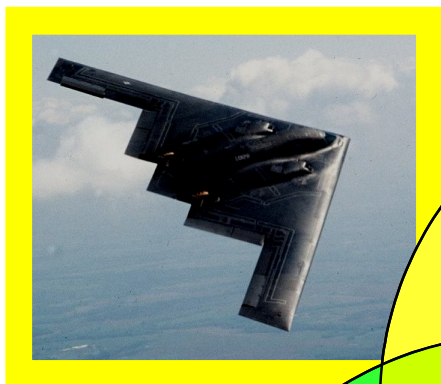




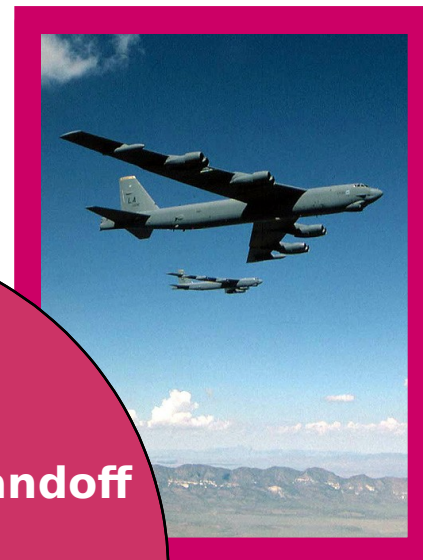
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# Each Bomber Has Unique Capabilities



Low-observable  
Highly defended  
critical targets  
Deployable



Penetrators

Nuclear  
mission

Standoff

Mass  
Flexibility  
Speed

Multiple  
mission  
capability on  
same sortie  
Mixed weapons  
Load - versatile

- Multiple targets per sortie
- Responsive
- Persistent
- Long range
- Large accurate flexible payloads

88% of bomber force

Adds mass to  
conventional  
strikes in  
low threat  
environment







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# Air Force LRS Flight Plan (Concept)

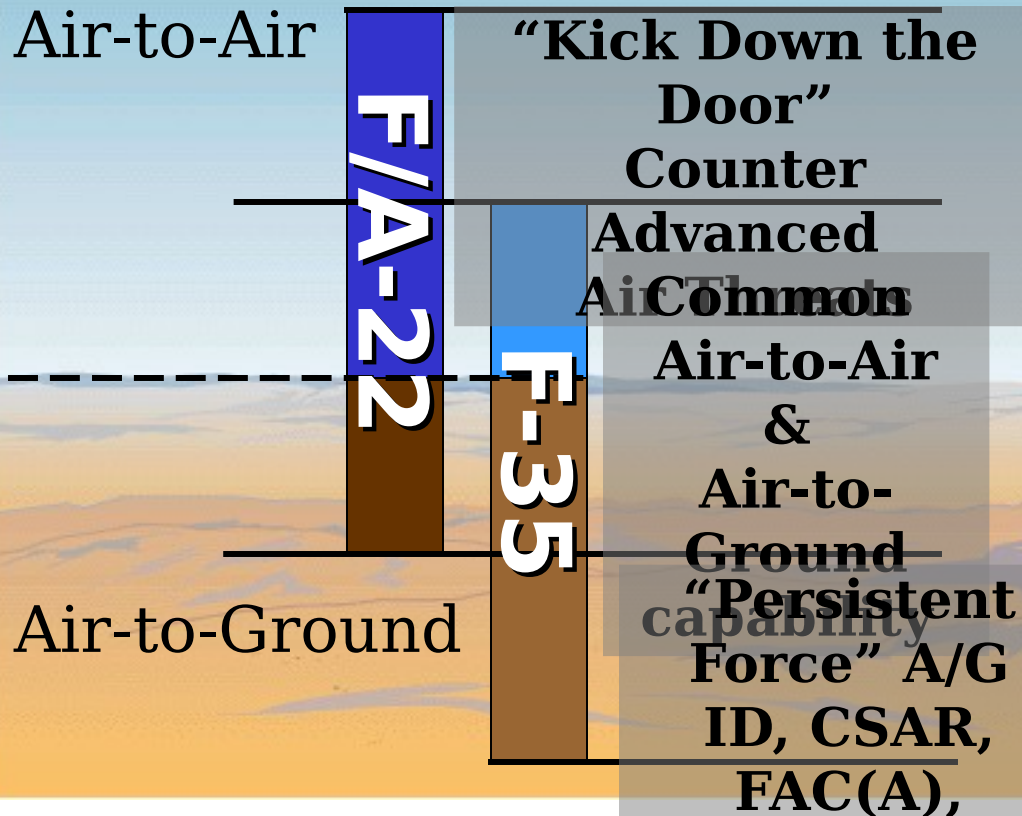
## ■ Three-phased approach

- **Phase I (Near Term):** Continue with current investment strategy - combination of system and enabler improvements
  - Modernize/upgrade current force to maintain operational relevancy
- **Phase II (Mid Term):** Next Generation LRS -- Develop and field strike capability(ies) in the 2015-2020 timeframe with survivability/lethality improvements
  - Need capability to penetrate advanced anti-access threats and strike in adverse weather, day/night based on current/near term technology
- **Phase III (Long Term):** Develop and field transformational LRS capability(ies) using cutting edge technologies in the 2035+ timeframe
  - Hypersonics, Directed energy, and “Exo-atmospheric” are technologies under consideration



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# **F/A-22 & F-35 Mission Domains**



## **F/A-22**

- Focus on Battlespace Dominance (OCA/DCA)
- Uncompromised performance

## **F-35**

- Focus on Strike
- Affordability / Large numbers



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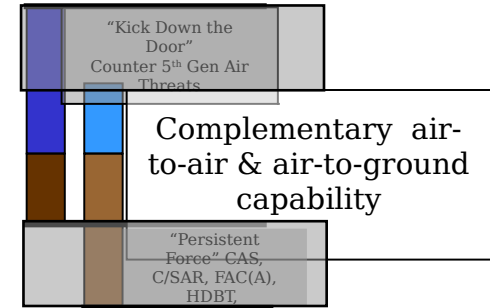
# **F/A-22 & F-35 Common Domain**

## ■ How?

- **24/7 Stealth**
- **Multi-mission**
- **Interoperability - Linked to Infosphere**
- **Advanced A/A and A/G weapons (Precision)**

## ■ Why Important?

- **Flexibility !!**
- **Survivable vs Advanced Threat**
- **Lethal - Persistent and Precise**







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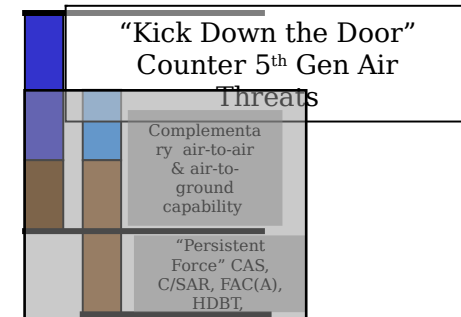
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# Exclusive F/A-22 Domain

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## ■ How?

- **Speed** (supercruise and Vmax)
- **Altitude** (60k' ceiling)
- **Payload** - 6 x 2 missiles
- **Maneuverability**



## ■ Why Important?

- **Enables all other Forces**, both Legacy and F-35
- **Survivability**
- **Sphere of Influence and Time to Engage**

**AIR DOMINANCE**

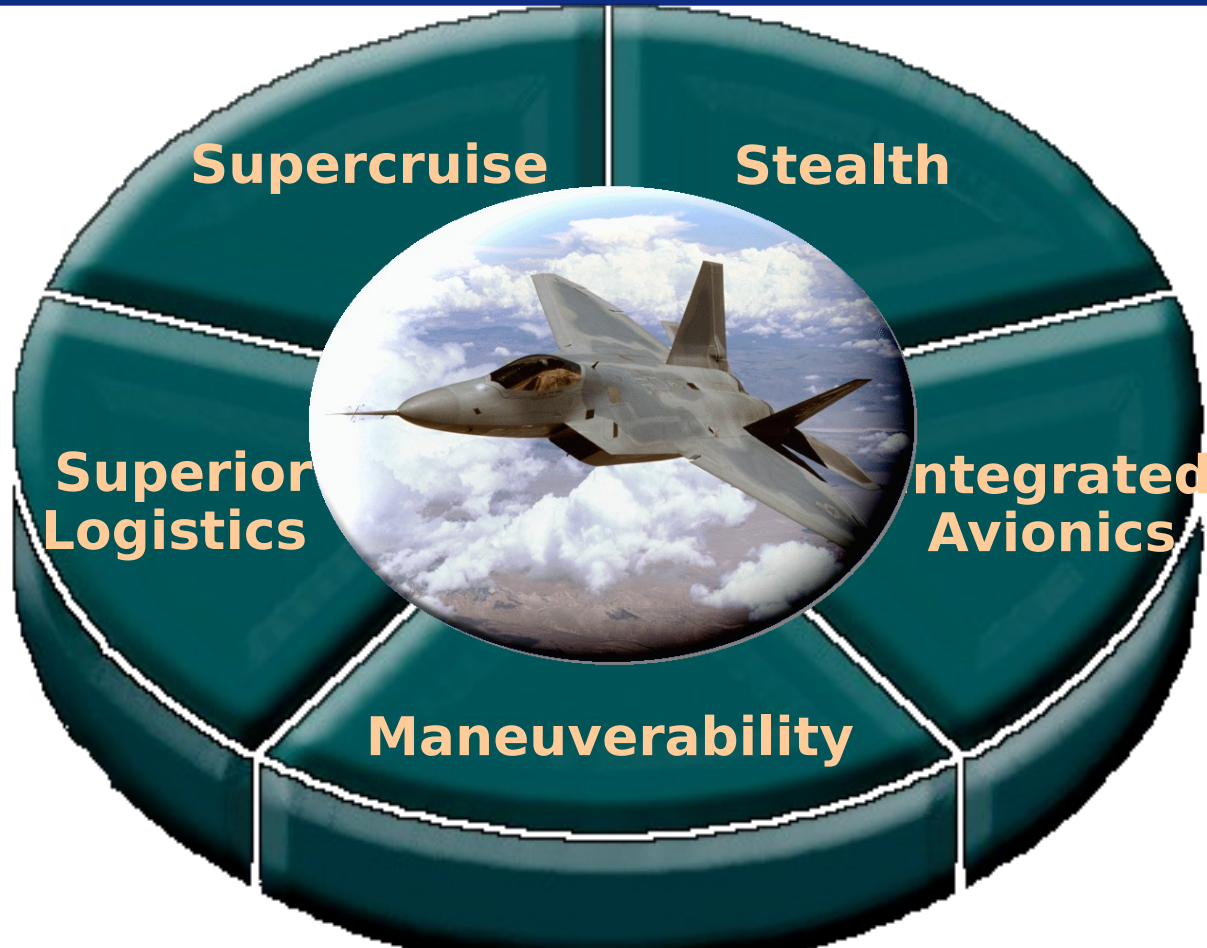


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# ***F/A-22 Baseline Capabilities***



**Raptor Technologies Enable Total Air  
Dominance**

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# Speed and Agility

Speed and Agility **enable** F/A-22:

- Better suited to deal with evolving air threat
- Better suited to deal with evolving ground threat
- **Supercruise:** Robs time from the enemy and increases the sphere of influence!

*The Raptor covers nearly **THREE** times the battlespace*



**AIR DOMINANCE**





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# The Air-to-Air Threat

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## How the F/A-22 Compares to the Emerging

Today		2005		
FULCRUM	FLANKER	TYPHOON	RAFALE	SU-35
A	A	A	A	A
A	A	A	A	A
A	P	A	P	P
A	A	A	A	A

Maneuverability

Radar detection

Range

Radar Cross Section

F/A-22

Advantage

Parit

V

F/A-22

Disadvantage

Source: AF Assessment using DIA Foreign Aircraft Data

The F/A-22 Regains the Ability to Dominate

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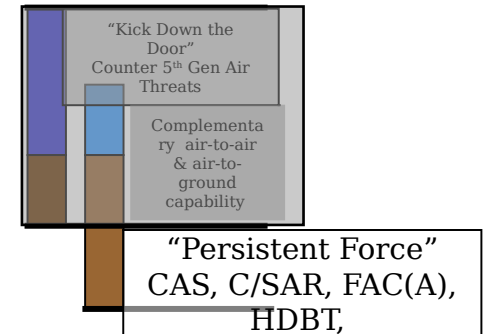
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# Exclusive F-35 Domain

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## ■ How?

- Unique A/S Avionics
- **Payload**/Ordnance - 2000# class A/S weapons bay, wide-variety internal/external weapons, “bomb truck”
- Quantity - 1763



## ■ Why Important?

- Survivable-stand off targeting
  - Real-time target ID
  - Minimize Fratricide
- **Lethal-precision** engagement
- Penetr
- **Persist**

**PERSISTENT STRIKE**

# Establishing Access Through Air Dominance

## Early Land-Based

**Land-Based Capabilities**  
**Stealth / Supercruise /**  
**High Altitude**  
**Long Range Strike**  
**Precision**  
**Electronic Attack**  
**Refueling to Extend**  
**Space and C4ISR**





# Joint CAF CONOPS Follow-on Operations

## Air Dominance

**Immediate take down  
of high threat targets  
enables joint ops at  
time and place of our  
choosing**





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## **Questions / Comments**



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## **Back-Up Slides**



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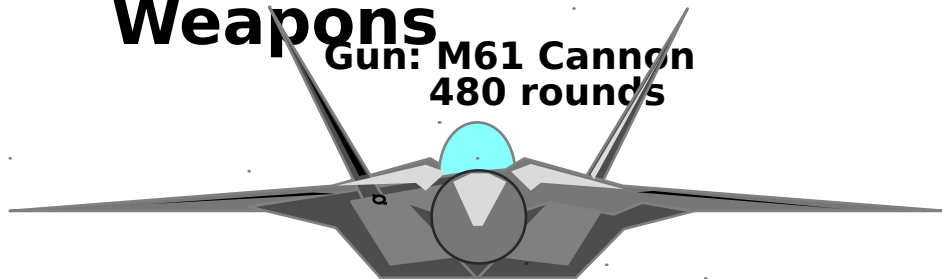
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# Internal Payloads

## F/A-22 Internal Weapons

Gun: M61 Cannon  
480 rounds



### Side Bays:

✦ 2 x AIM-9M/X ✦

### Center Bay:

3,150 lbs

✦ ✦ ✦ 6 x AIM-120 ✦ ✦ ✦

or

✦ ✦ 2 x AIM-120/ ✦ ✦

2 x 1000#

JDAM

or

8 x SDB

## F-35 Internal Weapons

25 mm  
~ 180 Rounds



### Center Bay:

5,700 lbs

✦ ✦ 4 x AIM-120 ✦ ✦

or

✦ ✦ 2 x AIM-120/ ✦ ✦

2 x **2000# Class**  
**(Area Wpns: WCMD, etc)**

or

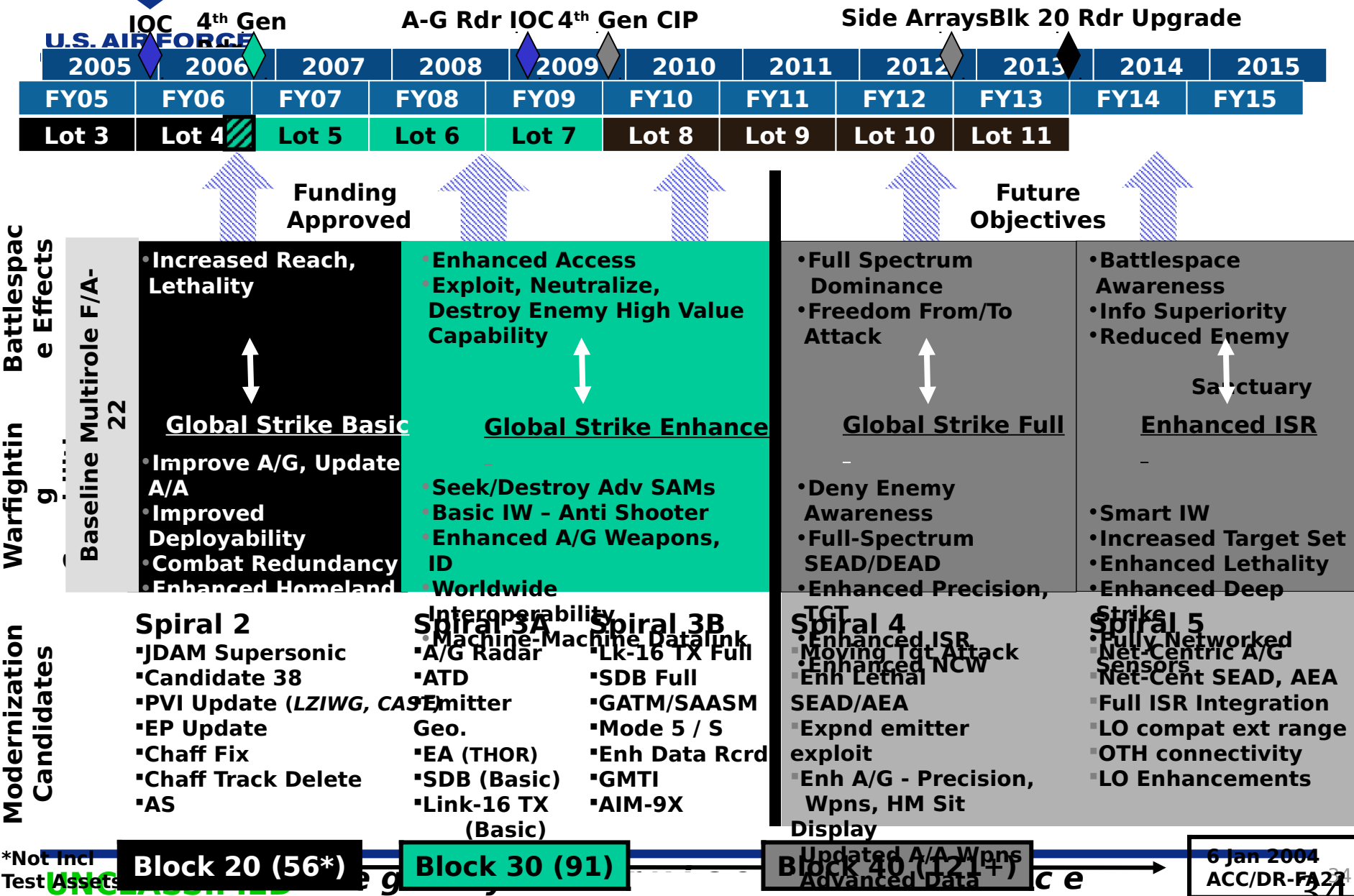
8 x SDB



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# F/A -22 Modernization Program







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# F/A-22 Modernization Program (Proposed--Draft)

